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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,731	09/15/2003	Edward T. Tanner	21323.000331	1688

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EXAMINER

RODRIGUEZ, PAMELA

ART UNIT PAPER NUMBER

3683

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,731

Applicant(s)

TANNER, EDWARD T.

Examiner

Pam Rodriguez

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment filed May 3, 2005 has been received and considered. And in light of the new election clarification below and the examination of all Claims 1-35, a new second non-final office action has been presented below.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-35, drawn to a shock and vibration isolation system for mounting equipment to a base wall, classified in class 188, subclass 267.1.
- II. Renumbered Claims 36-41 (note that applicant has inadvertently misnumbered Claims 36-41 as numerals 35-40), drawn to a method of operating a shock and vibration isolation system, classified in class 29, subclass 896.93.

3. The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the process of operating the shock and vibration isolation system can be practiced using another totally different type of isolation system. Infinite types of shock isolation systems can be used in the process

claimed in renumbered Claims 36-41, such as electrorheological type systems or purely electrical active control damping systems.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. This application contains claims directed to the following patentably distinct species of the claimed invention:

Species A – Figures 1-4

Species B – Figures 5 and 6 and Figures 7A, 7B, and 8-

10.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

6. As per the interview summary filed March 2, 2005, a telephone call was conducted with Mr. David Baker to clarify/correct the examiner's previous election requirement (see note below regarding the context of this interview), which resulted in applicant electing with traverse Invention I, Species B and all Claims 1-35 being examined.

The requirement is now deemed proper and is therefore made FINAL.

Note: Mr. Baker contacted the examiner regarding the original election requirement made by the examiner and in particular, the grouping of Figure 5 with Figures 6, 7A, 7B, and 8-10. In her original restriction requirement, the examiner had concluded that Figures 5 and 6 were one species of the invention while Figures 7A, 7B, and 8-10 were another species. Mr. Baker explained that in fact Figure 5 was the generic species of all these figures with Figure 6 being a subspecies of Figure 5 and Figures 7A, 7B, and 8-10 being a further subspecies of Figure 5. Therefore, Mr. Baker claimed that his previous election of Figure 5 should have included an examination of all the Figures and

consequently prompted the examination of all Claims 1-35. The examiner agreed to reconsider her position on this and upon applicant's filing of a response to the outstanding office action would then issue a subsequent non-final office action to remedy this deficiency, which she has done as outlined above.

7. Claims 36-41 (now canceled) are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on November 24, 2004.

Drawings

8. The Figure 8 drawing was received on May 3, 2005. This drawing is approved by the examiner.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-4, 6, 11-14, 16, and 29-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,752,250. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons:

Regarding Claims 1-3 and 6 of the instant application, these claims read almost word for word on Claims 1-4 of the patent except for a means for converting vibratory motion to electrical energy for storage in the rechargeable power supply.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the instant application with a means for converting vibratory motion to electrical energy for storage in the rechargeable power supply as recited in the '250 patent in order to provide the necessary means to supply power to the recharging arrangement as it is needed.

Regarding Claim 4 of the instant application, Claim 5 of the patent reads almost word for word on Claim 4 except for the current driver being operatively connected to the power supply as claimed in lines 3-4 of Claim 4 of the instant application.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the isolation system of the '250 patent to include a connection between the current driver and the power supply so that the current driver can always have adequate power to energize the damper to initiate damping as needed throughout the system.

Regarding Claims 11 and 29 of the instant application, Claim 1 of the patent reads almost word for word on Claims 11 and 29 except for the specifics of the damping control means controlling the reaction force applied to the load plate and the base plate **by the semi-active damping means (Claim 11)** and the rechargeable power supply being in communication/connected with the damping control means (Claims 11 and 29).

Regarding the damping control means, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the isolation system of the '250 patent to ensure that the damping control means controlled the reaction force applied to the load plate and the base plate by the semi-active damping means as this type of control of the damping means is absolutely necessary in order for the isolation system to function properly. In other words, the damping control means has to control the semi-active damping means in order to isolate and control vibration between the load plate and the base plate.

Regarding the rechargeable power supply, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the isolation system of the '250 patent to have the rechargeable power supply be in communication with the damping control means in order to ensure that the damping control means always had adequate power to effect damping in the system. Without the necessary power to activate the damping control means, the entire isolation system would be inoperative.

Regarding Claims 12 and 30 of the instant application, this claim reads directly on Claims 2 and 3 of the '250 patent.

Regarding Claim 13 of the instant application, see Claim 4 of the '250 patent which contains its subject matter.

Regarding Claim 14 of the instant application, see Claim 5 of the '250 patent which contains its subject matter.

Regarding Claims 16 and 31 of the instant application, see Claim 1 of the '250 patent which contains its subject matter.

NOTE: In the interview summary filed March 2, 2005, applicant's representative, Mr. Baker wished to discuss the nature of the statutory double patenting rejections of Claims 1-3 and 6 previously presented by the examiner. Upon further reconsideration by the examiner, it was deemed that these claims should have been rejected under the non-statutory double patenting provisions and as such applicant agreed to file a terminal disclaimer for these claims and the remaining non-statutory double patenting rejected claims., which he did in his response filed May 3, 2005. Thusly, these double patenting rejections are now all moot in view of the terminal disclaimer filed on May 3, 2005, which has been approved.

Terminal Disclaimer

11. The terminal disclaimer filed on May 3, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent no. 6,752,250 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 11, 29, 34, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,091,679 to Murty et al.

Regarding Claims 1, 11, and 29, Murty et al disclose a shock and vibration isolation system (see Figure 1) for mounting equipment to a base wall, the system comprising: a load plate 2 configured for attachment of the equipment thereto; a base plate 3 configured for attachment to the base wall; the base plate 3 being substantially parallel to the load plate 2, a spring arrangement 6 disposed intermediate the load plate 2 and the base plate 3, the spring arrangement 6 engaging the load plate and the base plate to bias the load plate and the base plate in a separated relationship (see Figure 1); a semi-active damper 7 disposed intermediate the load plate and the base plate, the a semi-active damper 7 being adapted for providing a selectively variable reaction force to the load plate and the base plate responsive to a relative displacement of the load plate with respect to the base plate; a damper controller 9 operatively connected to the semi-active damper 7 for controlling the reaction force applied to the load plate and the base plate, the damper controller including a rechargeable power supply 316; and a recharging arrangement in electrical communication with the rechargeable power supply, the recharging arrangement being mounted to one of the base plate and the

load plate and being adapted for converting vibratory motion to electrical energy for storage in the rechargeable power supply (see column 9 line 66 – column 10 line 50).

{See also the office action dated November 5, 2003 of the examiner of the parent application of this case which previously made this same rejection of the Claims}

Regarding Claims 34 and 35, see battery 316, capacitors 320a-c, and rectifier bridge circuit 341 as shown in Figure 8 and discussed in column 10 lines 24-27.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1-5, 11-15, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent no. 5,652,704 to Catanzarite in view of U.S. Patent no. 5,091,679 to Murty et al.

Regarding Claims 1, 11, and 29, Catanzarite discloses a shock and vibration isolation system for mounting equipment to a base wall (see Figure 1), the system comprising: a load plate 11 configured for attachment of the equipment thereto; a base plate 13 configured for attachment to the base wall; the base plate 13 being substantially parallel to the load plate 11 (see Figure 1), a spring arrangement 17 disposed intermediate the load plate and the base plate, the spring arrangement 17

engaging the load plate and the base plate to bias the load plate and the base plate in a separated relationship (see Figure 1); a semi-active damper 22 disposed intermediate the load plate and the base plate, the a semi-active damper 22 being adapted for providing a selectively variable reaction force to the load plate and the base plate responsive to a relative displacement of the load plate with respect to the base plate; and a damper controller 42 operatively connected to the semi-active damper 22 for controlling the reaction force applied to the load plate and the base plate, the damper controller 42 including a rechargeable power supply 21.

However, Catanzarite does not disclose a recharging arrangement in electrical communication with the rechargeable power supply, the recharging arrangement being mounted to one of the base plate and the load plate and being adapted for converting vibratory motion to electrical energy for storage in the rechargeable power supply.

Murty et al are relied upon merely for their teachings of a vibration isolation system as discussed in paragraph 12 above including a recharging arrangement in electrical communication with the rechargeable power supply, the recharging arrangement being mounted to one of the base plate and the load plate and being adapted for converting vibratory motion to electrical energy for storage in the rechargeable power supply (see column 9 line 66 – column 10 line 50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the system of Catanzarite with a recharging arrangement for recharging the power supply as taught by Murty et al in order to allow

for a smaller power supply than would otherwise be possible since the recharging method makes up for the "missing" capacity.

{See also the office action dated November 5, 2003 of the examiner of the parent application of this case which previously made this same rejection of the Claims}

Regarding Claims 2, 12, and 30, see column 2 lines 36-40 of Catanzarite.

Regarding Claims 3 and 13, see step S1 discussed in the Catanzarite reference wherein the rate (i.e., velocity of the damping system) is used to calculate the force output. See also steps S11 and S12 of Catanzarite where displacement is used to determine a force factor.

Regarding Claims 4 and 14, Catanzarite further discloses a current driver 35 operatively connected to the semi-active damper 22 and the power supply for selectively supplying current to energize the semi-active damper 22; a damper force control module in communication with the optimum force determination module and the current driver 35, the damper force control module being adapted for controlling the supply of current to the semi-active damper according to a predetermined control algorithm (see column 2 lines 53 et al and Figure 3 of the reference).

Regarding Claims 5 and 15, Catanzarite, as modified, does not disclose the specifics of the control algorithm claimed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the control algorithm of Catanzarite, as modified, to be selected from the group consisting of clipped optimal control, velocity feedback control and acceleration bang-bang control dependent upon the operating

environment of the isolation system. As long as the damper force control module is adapted to control the supply of current to the semi-active damper, the algorithm used to perform this function is arbitrary.

16. Claims 7, 17, 21, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,091,679 to Murty et al. in view of U.S. Patent no. 3,559,027 to Arsem.

Regarding Claims 7, 17, 21, and 32, Murty et al disclose most all the features of the instant invention as applied in paragraph 13 above, except for the recharging arrangement including a piezoelectric generator.

Arsem is relied upon merely for his teachings of an isolation system having a damper controller and recharging arrangement 4 which can include a piezoelectric generator (see column 1 line 55 –column 2 line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the recharging arrangement of Murty et al to include a piezoelectric generator as taught by Arsem as an alternate equivalent means of recharging the power supply. As long as the recharging arrangement is capable of converting vibratory motion to electrical energy for storage in the rechargeable power supply, the means used to do so is arbitrary.

17. Claims 8-10, 18-20, 26-28, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent no. 5,091,679 to Murty et al. in view of U.S. Patent No. 3,559,027 to Arsem as applied to claims 7, 17, 21, and 32 above, and further in view of U.S. Patent No. 4,080,636 to Ravizza.

Regarding Claims 8, 18, 26, and 33, Murty et al., as modified, disclose most all the features of the instant invention as applied above, except for the specifics of the piezoelectric generator being formed as a laminate of crystals, having an upper and lower surface.

Ravizza is relied upon merely for his teachings of a piezoelectric generator 68 (see Figure 2a) formed as a laminate of crystals having an upper surface 72/50 and a lower surface 48 (see column 6 lines 21-34) used in a damping isolation system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the piezoelectric generator of Murty et al., as modified, to be formed as a laminate of crystals having top and bottom surfaces as suggested by Ravizza in order to allow this type of recharging arrangement to be firmly and more securely attached to the equipment on which it is to be mounted. Again, as long as the piezoelectric generator is firmly secured to its respective equipment, the form of the generator is arbitrary.

Regarding Claims 9, 10, 19, 20, 27, and 28, Murty et al., as modified, disclose most all the features of the instant invention as applied above, except for the specifics of the location of the piezoelectric generator with respect to the load plate, base wall, and base plate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the piezoelectric generator of Murty et al., as modified, to be located with respect to the load plate, base wall, and base plate as claimed, as a matter of design preference, dependent upon the design constraints of the

equipment utilizing the isolation system, the size and dimensions of the generator itself, etc. As long as the generator is mounted in such a way to provide its recharging function, its location can be anywhere throughout the system.

18. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent no. 5,091,679 to Murty et al. in view of U.S. Patent No. 3,559,027 to Arsem as applied to Claim 21 above and further in view of U.S. Patent no. 5,652,704 to Catanzarite.

Regarding Claim 22, see Claim 3 above.

Regarding Claim 23, see Claim 4 above.

Regarding Claim 24, see Claim 5 above.

Allowable Subject Matter

19. Claims 6, 16, 25, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims (as consistent with the examiner of the parent application's indication of such allowable subject matter in his office action issued November 5, 2003).

Response to Arguments

20. Applicant's arguments filed May 3, 2005 have been fully considered but they are not persuasive.

Regarding applicant's arguments concerning the Murty patent and that it does not disclose a system comprising a semi-active damper, applicant is referred back to the previous examiner's remarks in the final rejection in the parent application 09/963,566 issued November 5, 2003.

Regarding applicant's arguments concerning the Murty patent not disclosing a separate charging mechanism apart from the actuators themselves, the examiner contends that these remarks are more specific than the claim language. Nowhere in the claim language of independent claims 1, 11, 21, and 29 does applicant recite that this recharging means must be separate and distinct from the semi-active damping means. The claim language merely requires that a recharging means be present in the isolation system, which as discussed in detail in the rejections above, is the case in the Murty et al patent.

It is for these reasons that the rejections have been maintained.

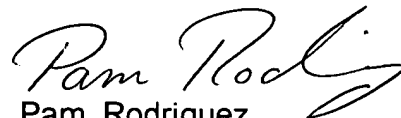
Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pam Rodriguez whose telephone number is 571-272-7122. The examiner can normally be reached on Mondays 5 am -3:30 pm and Tuesdays 5 am -11 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chuck Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Pam Rodriguez
Primary Examiner
Art Unit 3683

7/12/05

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